

S/N 10/786726

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Leonard Forbes	Examiner:	Unknown
Serial No.:	10/786,726	Group Art Unit:	Unknown
Filed:	February 25, 2004	Docket:	303.680US3
Title:	STATIC NVRAM WITH ULTRA THIN TUNNEL OXIDES		

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicant respectfully requests that this Supplemental Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicant requests that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicant with the next official communication.

Pursuant to 37 C.F.R. §1.97(b), it is believed that no fee or statement is required with the Supplemental Information Disclosure Statement. However, if an Office Action on the merits has been mailed, the Commissioner is hereby authorized to charge the required fees to Deposit Account No. 19-0743 in order to have this Supplemental Information Disclosure Statement considered.

The Examiner is invited to contact the Applicant's Representative at the below-listed telephone number if there are any questions regarding this communication.

The present application is either a U.S. national patent application filed after June 30, 2003 or an international application that entered the national stage under 35 U.S.C. § 371 after June 30, 2003. Thus, Applicant believes that the U.S. Patent & Trademark Office has waived the requirement under 37 C.F.R. 1.98 (a)(2)(i) for submitting a copy of each cited U.S. patent and each U.S. patent application publication. The waiver is provided in a pre-OG notice from the U.S. Patent & Trademark Office entitled "Information Disclosure Statements May Be Filed Without Copies of U.S. Patents and Published Applications in Patent Applications filed after June 30, 2003" and dated July 11, 2003. Applicant acknowledges the requirement to submit copies of foreign patent documents and non-patent literature in accordance with 37 C.F.R. 1.98(a)(2).

Respectfully submitted,

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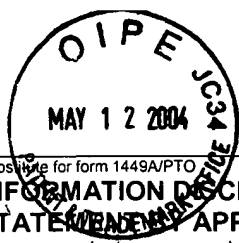
Date 5-7-04

By 
Marvin L. Beekman
Reg. No. 38,377

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 10 day of May, 2004.

MEREDITH MESCHER
Name


Signature



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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Use as many sheets as necessary)

Complete if Known

Application Number	10/786726
Filing Date	February 25, 2004
First Named Inventor	Forbes, Leonard
Group Art Unit	Unknown
Examiner Name	Unknown

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Attorney Docket No: 303.680US3

US PATENT DOCUMENTS

Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	Filing Date If Appropriate
	US-2001/0011744	08/09/2001	Sung, K.	257	314	03/30/2001
	US-2002/0020871	02/21/2002	Forbes, L.	257	315	08/30/2001
	US-2002/0064911	05/30/2002	Eitan, B.	438	216	08/28/2001
	US-2002/0113262	08/22/2002	Forbes, L.	257	315	01/09/2002
	US-2002/0016081 A1	02/07/2002	Aloni, E. , et al.	438	714	10/15/2001
	US-20030/001197	01/02/2003	Chang, Y. , et al.	257	315	08/30/2002
	US-2003/0201491	10/30/2003	Chung, B.	257	324	05/08/2003
	US-3,882,469	05/06/1975	Gosney Jr., William M.	340	173R	06/18/1973
	US-4,173,766	11/06/1979	Hayes, James A.	357	23	09/16/1977
	US-4,409,723	10/18/1983	Harari, E.	29	571	09/08/1980
	US-4,435,785	03/06/1984	Chapman, Richard A.	365	147	06/02/1981
	US-5,020,030	05/28/1991	Huber, R. J.	365	185	10/31/1988
	US-5,408,115	04/18/1995	Chang, K.	257	324	04/04/1994
	US-5,530,581	06/25/1996	Cogan, S. F.	359	265	05/31/1995
	US-5,596,214	01/21/1997	Endo, N.	257	324	05/01/1930
	US-5,768,193	06/16/1998	Lee, P. W. , et al.	365	185.25	11/07/1996
	US-5,796,670	08/18/1998	Liu, Kwo-Jen	365	228	11/07/1996
	US-5,852,311	12/22/1998	Kwon, , et al.			06/05/1997
	US-5,869,370	02/09/1999	Chuang, K. , et al.	438	264	12/29/1997
	US-5,886,368	03/23/1999	Forbes, Leonard , et al.	257	77	07/29/1997
	US-5,989,958	11/23/1999	Forbes, Leonard	438	257	08/20/1998
	US-6,008,091	12/28/1999	Gregor, R.W. , et al.	438	261	01/27/1998
	US-6,011,725	01/04/2000	Eitan, B.	365	185.33	02/04/1999
	US-6,025,627	02/15/2000	Forbes, Leonard , et al.	257	321	05/29/1998
	US-6,031,263	02/29/2000	Forbes, Leonard , et al.	257	315	07/29/1997
	US-6,049,477	04/11/2000	Taira, Shigenobu	365	145	07/08/1998
	US-6,063,668	05/16/2000	He, Y. , et al.	438	264	12/18/1997
	US-6,096,640	08/01/2000	Hu, Y.	438	652	04/02/1998

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

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Examiner Name	Unknown

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Attorney Docket No: 303.680US3

	US-6,204,179	03/20/2001	McTeer, Allen	438	687	07/09/2002
	US-6,207,222	03/27/2001	Chen, Liang-Yuh , et al.	427	97	08/24/1999
	US-6,245,613	06/12/2001	Hsu, , et al.			04/24/2000
	US-6,265,266	07/24/2001	Dejenfelt, A. T., et al.	438	258	09/27/1996
	US-6,278,155	08/21/2001	Okabe, Yoshifumi , et al.	257	328	11/22/1999
	US-6,316,316	11/13/2001	Wu, S.	438	260	06/18/1999
	US-6,319,774	11/20/2001	Hai, T.T.	438	259	02/27/1998
	US-6,383,939	05/07/2002	Yang, W. , et al.	438	706	08/17/1999
	US-6,515,328	02/04/2003	Yang, W. , et al.	257	315	02/04/1999
	US-6,583,011	06/24/2003	Xia, L. , et al.	438	275	01/11/2000

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Foreign Document No	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	T ²
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OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		"Silicon Monoxide", CERAC, inc.-Silicon Monoxide, SiO ₂ , (2000), pp. 1-4.	
		AL-ANI, S.K.J. , et al., "The Effect of Temperature of the Optical Absorption Edge of Amorphous Thin Films of Silicon Monoxide", <u>Phys. Stat. Sol.(b)</u> 123, (1984), 653-658	
		AL-ANI, S.K.J. , et al., "The optical absorption edge of amorphous thin films of silicon monoxide", <u>Journal of Materials Science</u> , 19, (1984), 1737-1748	
		CHAND, N. , et al., "Tunability of intrinsic stress SiO ₂ /sub x/ dielectric films formed by molecular beam deposition", <u>IEEE</u> , (1995), 2 pages	
		CHAU, R. , et al., "30nm Physical Gate Length CMOS Transistors with 1.0 ps n-MOS and 1.7 ps p-MOS Gate Delays", <u>IEEE Int. Electron. Devices Meeting, San Francisco</u> , (December, 2000), pp. 45-48	
		CHEN, IH-CHIN , et al., "A Physical Model for the Gate Current Injection in p-Channel MOSFET's", <u>IEEE Electron Device Letters</u> , 14(5), (May 1993), 228-230	
		CHUNG, S. S., et al., "Performance and Reliability Evaluations of P-Channel Flash Memories with Different Programming Schemes", <u>International Electron Devices Meeting, Technical Digest, Washington, D.C.</u> , (December 1997), 295-298	
		DEMICHELIS, F. , et al., "Doped amorphous and microcrystalline silicon carbide as wide band-gap material", <u>Wide Band Gap Semiconductors Symposium, Mat. Res. Soc.</u> , Pittsburgh, PA, (1992), 1 page	
		ELDRIDGE, J. M., et al., "Oxidation of Plasma-Deposited a-Si _{0.8} C _{1-x} : H films", <u>J. Electrochem. Soc.</u> , Vol 137, No. 7, (July, 1990), pp. 2266-2271	
		FURUSAWA, T. , et al., "Simple, Reliable Cu/low-k Interconnect Integration Using Mechanically-strong Low-k Dielectric Material: Silicon-oxycarbide", <u>Proc. IEEE Int. Interconnect Technology Conf.</u> , (June, 2000), pp. 222-224	

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Substitute Disclosure Statement Form (PTO-1449)

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional) ² Applicant is to place a check mark here if English language Translation is attached

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Attorney Docket No: 303.680US3

OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		HIRAYAMA, M. , et al., "Low-Temperature Growth of High-Integrity Silicon Oxide Films by Oxygen Radical Generated in High-Density Krypton Plasma", <u>IEEE</u> , (1999),4 pages	
		ILYAS, M. , et al., "The optical absorption edge of amorphous thin films of silicon monoxide and of silicon monoxide mixed with titanium monoxide", <u>IEE</u> , (2001),1 page	
		KUBASCHEWSKI, O. , et al., "Oxidation of Metals and Alloys", <u>Butterworths</u> , London, (1962),pp. 53-64	
		MAITI, B. , et al., "Metal Gates for Advanced CMOS Technology", <u>Proc. Microelectronic Device Technology III</u> , Santa Clara, CA, 22-23 , Soc. of Photo-Optical Instrumentation Engineers, Bellingham WA,(September, 1999),pp. 46-57	
		RENLUND, G. M., "Silicon oxycarbide glasses: Part I. Preparation and chemistry", <u>J. Mater. Res.</u> , (December, 1991),pp. 2716-2722	
		RENLUND, G. M., "Silicon oxycarbide glasses: Part II. Structure and properties", <u>J. Mater. Res.</u> , vol. 6, No. 12,(December, 1991),pp. 2723-2734	
		ROBINSON, G. , "Passivation hardens lasers for low-cost package", 3 pages	
		SKRIVER, H. L., et al., "Surface energy and work function of elemental metals", <u>Physical Review B (Condensed Matter)</u> , vol. 46, no. 11,(September 15, 1992),1 page	
		STRASS, A. , et al., "Fabrication and Characterisation of thin low-temperature MBE-compatible silicon oxides of different stoichiometry", <u>Thin Solid Films</u> 349, (1999),pp. 135-146	
		SZE, S. M., "Physics of Semiconductor Devices", <u>New York, Wiley-Interscience</u> , ISBN: 0471842907,(1969),402-407	
		SZE, S. M., "Physics of Semiconductor Devices", <u>Wiley</u> , (1981),pp. 251, 396	
		TIWARI, SANDIP , "Volatile and Non-Volatile Memories in Silicon with Nano-Crystal Storage", <u>Int'l Electron Devices Meeting: Technical Digest</u> , Washington, DC,(Dec. 1995),521-524	

EXAMINER**DATE CONSIDERED**

Substitute Disclosure Statement Form (PTO-1449)

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.¹ Applicant's unique citation designation number (optional) ² Applicant is to place a check mark here if English language Translation is attached



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

JDW

Applicant: Leonard Forbes

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Group Art Unit: Unknown

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

We are transmitting herewith the following attached items (as indicated with an "X"):

☒ A return postcard.

☒ A Supplemental Information Disclosure Statement (2 pgs.), Form 1449 (3 pgs.), and copies of 22 cited documents.

If not provided for in a separate paper filed herewith, Please consider this a PETITION FOR EXTENSION OF TIME for sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

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MEREDITH MESCHER

Name

Meredith Mescher

Signature

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.

(GENERAL)